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NOMENCLATURAL NOTES AND TYPIFICATION OF *Ophiorrhiza tonkinensis* Pit. (Rubiaceae), AN ENDEMIC SPECIES FROM NORTHERN VIETNAM

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ABSTRACT

The present article lectotypifies the name Ophiorrhiza tonkinensis Pit., a species endemic to North Vietnam. A thorough review of the literature and examination of the museum specimens did not assign a lectotype to the name O. tonkinensis. Therefore, according to Shenzhen Code, 2018, we designate the specimen currently held at P as the lectotype of O. tonkinensis. This specimen best matches the original description and possesses reproductive organs. Other specimens at P are incomplete or only have fruits, which do not represent all the characteristics described in the introduction. They are designated here as syntypes, presented by us in the article.The present article lectotypifies the name *Ophiorrhiza tonkinensis* Pit., a species endemic to North Vietnam.

Keywords: Nomenclature, coffee family, endemic species, Indo-China.

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INTRODUCTION

Ophiorrhiza L. is a member of the tribe Ophiorrhizeae, subfamily Rubioideae, family Rubiaceae (Bremer & Eriksson, 2009), comprising more than 300 species worldwide (Govaerts et al., 2023; Lei et al., 2019). The genus is primarily distributed in the wet tropical forests of Southeast Asia, extending to Australia, New Guinea, and the Pacific Islands (Darwin, 1976; Chen & Taylor, 2011). *Ophiorrhiza* is a taxonomically challenging genus and is poorly known in Southeast Asia (Chen & Taylor, 2011). In Vietnam, the genus is represented by 26 species and 1 variety, of which 7 species are endemic to Vietnam (Pitard, 1924; Lo, 1990, 1999; Tran, 2005; Ho, 2003; Razafimandimbison et al., 2019; Nguyen et al., 2020; Wen et al., 2020; Bui et al., 2023). This article lectotypifies the name *Ophiorrhiza tonkinensis*. While describing *O. tonkinensis*, Pitard (1924) referred to multiple sheets collected by several workers, but a single sheet was not designated as the holotype. We, therefore, designated lectotypes here for *O. tonkinensis* in accordance with Articles 9.3, 9.11 and 9.6 of the Shenzhen Code (Turland et al., 2018).

RESULTS

Lectotypification

Ophiorrhiza tonkinensis Pitard Fl. Indo-Chine 3: 163. 1924. (Figs. 1, 2).

TYPE:- [VIETNAM]. Tonkin, Vo Xa, in nemoribus montis Chua Hac. 1884/10/23 *Bon H.F., 2795,* P [P02273407, P02273408, P02273412]; Vo Xá, in nemoribus montis Chua Hac, 1884/12/23, *Bon H.F., 2833,* P [P02273409, P02273410, P02273411]; Tonkin: Vallée de Lankok (Mont Bavi), sur le bord des torrents, 1888/08/27, *Balansa B., 2750,* P [P02273406]. (**Lectotype, here designated:** P [P02273412 digital image!]; isolectotypes: P [P02273407, P02273408 digital image!]. syntypes: [VIETNAM]. Tonkin, Vo Xá, in nemoribus montis Chua Hac. 1884/12/23, *Bon H.F., 2833,* P [P02273409 P02273410, P02273411 digital image!]); and Tonkin: Vallée de Lankok (Mont Bavi), sur le bord des torrents. 1888/08/27, *Balansa B., 2750,* P [P02273406 digital image!]).

Images of lectotype and isolectotype available at:

https://science.mnhn.fr/institution/mnhn/collection/p/item/p02273412?listIndex=7&listCount=7

https://science.mnhn.fr/institution/mnhn/collection/p/item/p02273408?listIndex=3&listCount=7

Nomenclatural notes:- While describing *O. tonkinensis* Pitard (1924) referred to two gatherings without citing any field numbers. The first referred to the collections made by *Balansa B., #2750,* P02273406, Tonkin: Vallée de Lankok (Mont Bavi), sur le bord des torrents. 1888/08/27/present-day Ba Vi National Park, Ba Vi district, in the capital Ha Noi. Whereas, the second referred to the collections made by Bon H.F., 2795 P02273407, P02273408, P02273412, 1884/10/23, from Tonkin Vo Xa, in nemoribus montis Chua Hac, (presently in North Vietnam) Vo Xá, in nemoribus montis Chua Hac (presently Kim Bang district, Ha Nam province).

Based on the time of specimen collection, several duplicates were submitted at P. We located three specimens at P from the collections made by Bon H.F (#2795), all collected on 23rd October 1884 (P02273407, P02273408 and P02273412). These specimens are the earliest available, bearing flowers and fruits.

A thorough survey of the literature (Wallich, 1824; Parker, 1922; Lo, 1999; Tran, 2005; Ho, 2003; Chen, 2011) and scrutiny of specimens at BM, E, HN, K, P and VNM revealed that earlier workers (Ho, 2003; Ninh, 2003) did not designate a lectotype for the name *O. tonkinensis*. Therefore, following Art. 9.6 of the Shenzhen Code (Turland et al., 2018), we designate the specimen P02273407 as the lectotype of *O. tonkinensis* (Figs. 1, 2). This specimen best matches the original description and possesses the reproductive parts. Other specimens at P are either incomplete or only in fruit, not representing

all the characteristics described in the protologue. These are designated here as syntypes, following Arts. 9.3 and 9.11 of the Shenzhen Code (Turland et al., 2018).

Figure 1. Lectotype of *Ophiorrhiza tonkinensis* Pitard. (Balansa B., 2750, P02273412)

Figure 2. Isolectotype of *Ophiorrhiza tonkinensis* Pitard. (*Balansa B., 2750*, P02273408)

Description:-Shrubs, 25–40 cm high, erect, slender, unbranched, with woody stems, emitting shoots, glabrous, except the inflorescence axes., red in color. **Leaves** 5–12

cm long × 2–7 cm wide, oblong–elliptic, pointed or shortly obtuse at the apex, pointed and slightly degenerated at the base, olive green above, yellow-green below, thin, membranaceous; secondary veins 12–15 pairs, spreading, slightly upward, thin, slightly protruding below; petioles 1–2.5 cm long; stipules apex acute to acuminate 2–3 mm long, falls quickly. **Inflorescences** apical, branched and spreading; main axis 2–3 cm long; secondary axis 1–3 cm long, bifurcated, arranged in scorpion-shaped cymes consisting of 3–5 flowers; bracts 5–6 mm long, fibrous, acute, persistent, as well as bracts 1–2 mm long; pedicle 1–3 mm long. **Calyx** 4, ca. 0.5 mm long, lobes triangular, acute or subacute; tube 1.5–2 mm long. Petals 4, ca. 2.5 mm long, oblong, pointed. **Corolla** tube ca. 5 mm long × ca. 1.5 mm wide, cylindrical, smooth. Stamens 4, inserted in the middle of the tube; fibers ca. 1 mm long; Anthers ca. 2 mm long, narrow, obtuse, apex exposed. **Ovary** 2-chambered; disc cylindrical; style ca. 5 mm long; pistil 2, ca. 0.5 mm long, oblong, obtuse, thick, spreading; eggs many; placenta lamellar, pedunculate, attached to the bottom of the ovarian septum. **Dried fruit** capsule 3–4 mm long, 7–8.5 mm wide, egg-shaped, oblong, flattened; peduncle gradually growing, 2–4 mm long, epicarp black and smooth, cracked from top to bottom, many-seeded, ca. 0.5 mm long, angular; light brown.

Ecology and phenology:- Flowering August to October, fruiting August to December.

Distribution:- Vietnam. Endemic to Ha Nam province (Kim Bang district, Ha Nam province), Ba Vi National Park, Ba Vi district, Ha Noi.

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